## Release notes for ENDF/B Development e-083\_Bi\_000 evaluation



October 13, 2016

## • fudge-4.0 Warnings:

1. Mislabled emitted particle Reading ENDF file: ../e-083\_Bi\_000.endf (Error # 0): ZAP messed up

WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0

2. FIXME: Generic fudge unimplemented message reaction label 1: e- + Bi + gamma [bremsstrahlung] / Product: e- (Error # 0): Generic unimp (c)

WARNING: Checking not yet implemented for energyLoss type data

3. FIXME: Generic fudge unimplemented message reaction label 2: e- + Bi [excitation] / Product: e- (Error # 0): Generic unimp (c)

WARNING: Checking not yet implemented for energyLoss type data

## • fudge-4.0 Errors:

1. Calculated and tabulated thresholds don't agree reaction label 0: e- + Bi [large angle Coulomb scattering] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!

2. Calculated and tabulated thresholds don't agree reaction label 1: e- + Bi + gamma [bremsstrahlung] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!

3. Calculated and tabulated thresholds don't agree reaction label 2: e- + Bi [excitation] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!

4. Calculated and tabulated thresholds don't agree reaction label 3: e- + e- + Bi1s1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 90832. eV!

5. Calculated and tabulated thresholds don't agree reaction label 4: e- + e- + Bi2s1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16376. eV!

6. Calculated and tabulated thresholds don't agree reaction label 5: e- + e- + Bi2p1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15768. eV!

7. Calculated and tabulated thresholds don't agree reaction label 6: e- + e- + Bi2p3/2 /  $Cross\ section$ : ( $Error\ \#\ 0$ ): Threshold mismatch

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WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 13425. eV!
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- 8. Calculated and tabulated thresholds don't agree reaction label 7: e- + e- + Bi3s1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3973.9 eV!
- 9. Calculated and tabulated thresholds don't agree reaction label 8: e- + e- + Bi3p1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3692.7 eV!
- 10. Calculated and tabulated thresholds don't agree reaction label 9: e- + e- + Bi3p3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3166.9 eV!
- 11. Calculated and tabulated thresholds don't agree reaction label 10: e- + e- + Bi3d3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2698. eV!
- 12. Calculated and tabulated thresholds don't agree reaction label 11: e- + e- + Bi3d5/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2586. eV!
- 13. Calculated and tabulated thresholds don't agree reaction label 12: e- + e- + Bi4s1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 923.429999999999 eV!
- 14. Calculated and tabulated thresholds don't agree reaction label 13: e- + e- + Bi4p1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 799.42999999999 eV!
- 15. Calculated and tabulated thresholds don't agree reaction label 14: e- + e- + Bi4p3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 669.16 eV!
- 16. Calculated and tabulated thresholds don't agree reaction label 15: e- + e- + Bi4d3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 464.95 eV!
- 17. Calculated and tabulated thresholds don't agree reaction label 16: e- + e- + Bi4d5/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 440.61 eV!
- 18. Calculated and tabulated thresholds don't agree reaction label 17: e- + e- + Bi4f5/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 173.87 eV!

- 19. Calculated and tabulated thresholds don't agree reaction label 18: e- + e- + Bi4f7/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 168.17 eV!
- 20. Calculated and tabulated thresholds don't agree reaction label 19: e- + e- + Bi5s1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 166.86 eV!
- 21. Calculated and tabulated thresholds don't agree reaction label 20: e- + e- + Bi5p1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 123.12 eV!
- 22. Calculated and tabulated thresholds don't agree reaction label 21: e- + e- + Bi5p3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 97.459999999999 eV!
- 23. Calculated and tabulated thresholds don't agree reaction label 22: e- + e- + Bi5d3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 35.37 eV!
- 24. Calculated and tabulated thresholds don't agree reaction label 23: e- + e- + Bi5d5/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 32.17 eV!
- 25. Calculated and tabulated thresholds don't agree reaction label 24: e- + e- + Bi6s1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 17.69 eV!
- 26. Calculated and tabulated thresholds don't agree reaction label 25: e- + e- + Bi6p1/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.6 eV!
- 27. Calculated and tabulated thresholds don't agree reaction label 26: e- + e- + Bi6p3/2 / Cross section: (Error # 0): Threshold mismatch
  - WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.35 eV!
- xsectplotter Warnings:
  - 1. Mislabled emitted particle Error: ZAP messed up

stderr while processing crossSection

WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0  $\dots$  [4 more lines]